

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (original): A laser transmitter, comprising:

an input stage receiving a first signal and generating a second signal with a steady voltage swing in response to the first signal;

a control circuit generating a control signal;

a limiting amplifier having:

an input terminal receiving the second signal;

a control terminal receiving the control signal; and

an output terminal outputting a third signal having (a) an improved rise and fall time over the second signal and (b) an amplitude characteristic prescribed by the control signal;

a laser driver receiving the third signal and generating a fourth signal in response to the third signal; and

a light source receiving the fourth signal and generating a light in response to the fourth signal.

Claim 2 (original): The laser transmitter of claim 1, wherein the control signal sets a common-mode of the third signal.

Claim 3 (original): The laser transmitter of claim 1, wherein the control signal sets a peak amplitude of the third signal.

Claim 4 (original): The laser transmitter of claim 1, wherein the control circuit comprises a register storing and outputting a digital control signal to the limiting amplifier.

Claim 5 (currently amended): A laser transmitter, comprising:

an input stage receiving a first signal and generating a second signal with a steady voltage swing in response to the first signal;

a control circuit comprising a register storing and outputting a digital control signal;

a limiting amplifier, comprising: ~~The laser transmitter of claim 4, wherein the limiting amplifier comprises:~~

a first variable resistor having an input terminal coupled to a rail;

a second variable resistor having an input terminal coupled to an output terminal of the first variable resistor;

a third variable resistor having an input terminal coupled to the output terminal of the first variable resistor, wherein at least one of the first, the second, and the third variable resistors has a control terminal coupled to receive the digital control signal;

a differential pair comprising:

a first bipolar transistor having:

a collector coupled to an output terminal of the second variable resistor;

a base coupled to receive the second signal;

a second bipolar transistor having:

a collector coupled to an output terminal of the third variable resistor;

a current source having:

an input terminal coupled to the collector of the first bipolar transistor; and

an output terminal outputting ~~the~~ a third signal having (a) an improved rise and fall time over the second signal and (b) an amplitude characteristic prescribed by the digital control signal;

a laser driver receiving the third signal and generating a fourth signal in response to the third signal; and

a light source receiving the fourth signal and generating a light in response to the fourth signal.

Claim 6 (canceled).

Claim 7 (currently amended): The laser transmitter of claim [[6]] 5, wherein at least one of the first, the second, and the third variable resistors comprises a voltage controlled resistor.

Claim 8 (original): The laser transmitter of claim 5, further comprising:

a programmable current source having an input terminal coupled to emitters of the first and the second bipolar transistors;

wherein at least one of the first, the second, and the third variable resistors and the programmable current source has a control terminal coupled to receive the digital control signal.

Claim 9 (original): The laser transmitter of claim 1, wherein the control circuit comprises:

a register storing a digital control signal;

a digital-to-analog converter (DAC) receiving the digital control signal and generating an analog control signal to the limiting amplifier.

Claim 10 (currently amended): A laser transmitter, comprising:

an input stage receiving a first signal and generating a second signal with a steady voltage swing in response to the first signal;

a control circuit comprising:

a register storing a digital control signal;

a digital-to-analog converter (DAC) receiving the digital control signal and generating an analog control signal;

a limiting amplifier, comprising: ~~The laser transmitter of claim 9, wherein the limiting amplifier comprises:~~

~~a first variable resistor having an input terminal coupled to a rail;~~

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a second variable resistor having an input terminal coupled to an output terminal of the first variable resistor;

a third variable resistor having an input terminal coupled to the output terminal of the first variable resistor, wherein at least one of the first, the second, and the third variable resistors has a control terminal coupled to receive the analog control signal;

a differential pair comprising:

a first bipolar transistor having:

a collector coupled to an output terminal of the second variable resistor;

a base coupled to receive the second signal;

a second bipolar transistor having:

a collector coupled to an output terminal of the third variable resistor;

a current source having:

an input terminal coupled to the collector of the first bipolar transistor; and

an output terminal outputting the a third signal having (a) an improved rise and fall time over the second signal and (b) an amplitude characteristic prescribed by the analog control signal;

a laser driver receiving the third signal and generating a fourth signal in response to the third signal; and

a light source receiving the fourth signal and generating a light in response to the fourth signal.

Claim 11 (canceled).

Claim 12 (currently amended): The laser transmitter of claim ~~[[11]]~~ 10, wherein at least one of the first, the second, and the third variable resistors comprises a voltage controlled resistor.

Claim 13 (original): The laser transmitter of claim 10, further comprising:

a programmable current source having an input terminal coupled to emitters of the first and the second bipolar transistors;

wherein at least one of the first, the second, and the third variable resistors and the programmable current source has a control terminal coupled to receive the analog control signal.

Claim 14 to 19 (canceled).

Claim 20 (new): The laser transmitter of claim 1, wherein:

the input stage further (1) receives a fifth signal that is complementary to the first signal and (2) generates a sixth signal that is complementary to the second signal;

the limiting amplifier further has (1) another input terminal receiving the sixth signal and (2) another output terminal outputting a seventh signal that is complementary to the third signal; and

the laser driver further (1) receives the seventh signal and (2) generates the fourth signal in response to both the third and the seventh signal.

Claim 21 (new): The laser transmitter of claim 5, wherein:

the input stage further (1) receives a fifth signal that is complementary to the first signal and (2) generates a sixth signal that is complementary to the second signal;

the limiting amplifier further comprises:

another current source having:

an input terminal coupled to the collector of the second bipolar transistor, the second bipolar transistor further having a base coupled to receive the sixth signal; and

an output terminal outputting a seventh signal that is complementary to the third signal;

the laser driver further (1) receives the seventh signal and (2) generates the fourth signal in response to both the third and the seventh signal.

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Claim 22 (new): The laser transmitter of claim 10, wherein:

the input stage further (1) receives a fifth signal that is complementary to the first signal and (2) generates a sixth signal that is complementary to the second signal;

the limiting amplifier further comprises:

another current source having:

an input terminal coupled to the collector of the second bipolar transistor, the second bipolar transistor further having a base coupled to receive the sixth signal; and

an output terminal outputting a seventh signal that is complementary to the third signal;

the laser driver further (1) receives the seventh signal and (2) generates the fourth signal in response to both the third and the seventh signal.

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